

REMARKS

Claims 9-28 were previously pending in the application. By the Amendment, Claims 17 and 25 are currently amended, new Claims 29-31 have been added, and Claims 9-16, 18-24 and 26-28 remain unchanged.

The drawings are under objection for failure to include a figure indicated as necessary. Accordingly, the Applicant has provided by the present amendment, a new Figure in a manner suggested in the Official Action. It is therefore respectfully requested that the drawing objection be withdrawn.

The specification is also under objection as lacking a description of the drawings. Accordingly, by the present amendment, the applicant has provided a proper description of the drawings for entry in the present application and it is respectfully requested that the outstanding objection to the drawings be withdrawn.

The claims stand rejected under the cited prior art of record. Specifically, Claims 9-12, 14-20 and 22-28 were rejected under 35 USC §102(b) as being anticipated by US Patent No. 4,916,768 to Broadbent (Broadbent '768). Claims 13 and 21 were rejected under 35 USC §103(a) as being unpatentable over Broadbent '768 in view of US Patent No. 4,977,394 to Manson et al. (Manson '394).

Independent Claim 9 recites a method for operating a programmable washing machine having a laundry drum arranged rotatably inside a soap-solution container, which can be moved program-dependently with different speed profiles in both directions of rotation; and including a real-time clock by means of which the user himself can determine the beginning or end of the

washing process. The present invention further includes an anti-crease operation incorporated after the wash and spin program sections for loosening the laundry in the drum associated with an intermediate step in which the drum drive is driven with short and strong accelerating or braking pulses to bring about the detachment of a ring of laundry lying against the inner wall of the drum, formed during the spinning and in which the successful detachment of the laundry ring is monitored by means of comparative measurement data which are automatically determined by the program control system, wherein the subsequent anti-crease operation can be manipulated by the user.

Independent Claim 17 recites the invention in more detail. Independent Claim 17 recites A method for operating a programmable washing machine having a program control system with a memory for controlling operation of the washing machine, a laundry drum arranged rotatably inside a soap-solution container, with the drum being movable at different speeds in both directions of rotation and being controllable by programs from the program control system, a display device, and a timing device by means of which the user himself can determine the beginning or end of the washing process, the method including the steps of:

- receiving input data from the user;
- performing a washing program wherein the drum and laundry are rotated in a soap solution to wash the laundry;
- performing a spinning program in which the drum is rotated at a relatively high speed to remove water from the laundry, wherein a laundry ring may be formed lying against the inner wall of the drum during the spinning program;
- performing an anti-crease operation incorporated after the wash and spin program sections for loosening the laundry in the drum, the anti-crease operation including the steps of:

- driving the drum with short and strong accelerating and braking pulses to detach the laundry ring lying from the inner wall of the drum; if a laundry rings has formed, monitoring detachment of the laundry ring with a sensor sensing measurement data of the laundry ring
- comparing the measurement data to initial measurement data using the program control system; and
- adjusting the anti-crease operation with the program control system in response to the input data from the user.

Independent Claim 25 recites the invention in terms of a washing machine. Independent Claim 25 recites a programmable washing machine including a program control system with a memory and controlling operation of the washing machine; a soap-solution container for retaining liquids; and a laundry drum for receiving laundry and being arranged rotatably inside a soap-solution container with the drum being movable with different speed profiles in both directions of rotation and being controllable by washing programs, spinning programs, and anti-crease operations from the program control system. The present washing machine also includes a display device displaying operational data of the washing machine for a user; an input device for receiving input data from the user, the input data being transferred to the program control system; and a timing device for use by the user to set the beginning or end of the washing process. Also included is a sensor for sensing measurement data to detect the presence of a laundry ring formed against an inner wall of the drum, the sensor sensing initial measurement data before the running of the washing program and sensing current measurement data during the running of the anti-crease operation.

The program control system compares the current measurement data and the initial measurement data to determine the presence of the laundry ring. Also included is an arrangement for adjusting the operating parameters of the anti-crease operation in response to the input data from the user, the anti-crease operation including driving the drum with short and strong accelerating and braking pulses to detach the laundry ring lying from the inner wall of the drum. The present invention also includes an arrangement for adjusting the operating parameters of the anti-crease operation in response to the program control system determining the presence of the laundry ring.

Broadbent '768 is directed to a commercial laundry machine having a rotatable drum that is program controlled. As may be expected, in such a large commercial laundry drum, imbalances can cause serious disruptions of the laundry machinery. In order to cure imbalances, the Broadbent '768 machine periodically dislodges laundry that has been pinned against the outer rim of the drum as seen in figures 5A and 5B. As illustrated in figure 5C, a spiked pattern of [drum rotation] operation well above the RPM value needed to provide a 1G force at the periphery of the cylinder is especially effective to rapidly distribute the load of laundry material and liquid to substantially uniform density around the entire periphery of the cylinder 14 (Col. 7, ll. 29-44). In addition, an extracting speed of rotation of the laundry cylinder 14 is controllably varied in accordance with a predefined acceleration profile that can be selectively provided to accommodate different article characteristics of the laundry materials being handled (Col. 7, ll. 61-68).

While the Broadbent '768 apparatus acts to dislodge laundry from a rotating drum by using sharp spikes, or pulses of acceleration, the spikes of acceleration occur during normal rotation of the drum as seen in Figure 5C. In substantial contrast, and as seen in Figure 1 of the present application, the

dislodging of a laundry ring occurs apart from the normal rotation of the drum. This is further evidenced by noting that the loosening operation of Broadbent '768 occurs as a matter of course in the execution of a washing and spinning program while the present invention provides motion in addition to the normal rinse and spin rotational movement to loosen laundry rings as a part of a separate program to reduce wrinkles or creases in the laundry. Broadbent '768 is unconcerned with creases or wrinkles. In further support, the anti-crease program of the present invention is adjustable by a user wherein the Broadbent '768 machine provides no such adjustment arrangement. Therefore, the Broadbent '768 patent cannot be used to support anticipation of the present invention or an assertion that the present invention is obvious when combined with Manson '394 or any other reference.

For these and other reasons, Broadbent '768 does not disclose the subject matter defined by independent Claims 9, 17 and 25. Therefore, Claims 9, 17 and 25 are allowable. Claims 10-12, 14-16, 18-20, 22-24, and 26-28 all depend from one of Claims 9, 17 and 25 and are allowable for the same reasons and also because they recite additional patentable subject matter.

In addition, for these and other reasons, Broadbent '768 and Manson '394, either alone or in combination, do not disclose, teach or suggest the subject matter defined by Claims 13 and 21. Therefore, Claims 13 and 21 are allowable. Claims 13 and 21 also depend from Claims 9 and 17, respectively and are allowable for the same reasons and also because they recite additional patentable subject matter.

New independent Claim 29 recites a method for operating a programmable washing machine having a laundry drum rotatably disposed inside

a soap-solution container, the drum being configured for controlled movement at different speeds in both directions of rotation and including a real-time clock by means for determining the duration of the washing process, and a user interface for displaying information for a user and for receiving user input. The washing machine is programmed to perform the present method including the steps of:

- executing a washing program wherein the drum is rotated relatively slowly in alternating directions to immerse clothes being washed in a soap-solution;
- monitoring predetermined operational parameters to determine whether a laundry ring has formed against the drum, and, upon sensing a laundry ring, rotating the drum with relatively short strong pulses to dislodge the laundry ring;
- executing a rinsing program wherein the drum is rotated at a relatively moderate speed in a single direction to rinse soap from clothes being washed;
- executing a spin program wherein the drum is rotated at a relatively high speed to extract water from clothes being washed; and
- executing an anti-crease program wherein the drum is rotated in alternating directions for loosening the laundry in the drum.

The prior art, particularly Broadbent '768 does not disclose a method for operating a programmable washing machine as recited in Claim 29. More specifically, the prior art does not disclose, among other things, monitoring predetermined operational parameters to determine whether a laundry ring has formed against the drum, and, upon sensing a laundry ring, rotating the drum with relatively short strong pulses to dislodge the laundry ring and executing an anti-crease program wherein the drum is rotated in alternating directions for loosening the laundry in the drum.

Therefore, Applicants respectfully request allowance of independent Claim 29. Claims 30 and 31 depend from Claim 29 and should be allowed for the same reasons and also because they recite additional patentable subject matter.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of Claims 9-31 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,



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